EXECUTIVE SUMMARY

TITLE: Commander, Naval Submarine Forces Mishap Analysis

Bottom Line Up Front:

- Afloat mishaps increased in 2008/2009. The mishaps occurred through a variety of accident/activity types and are most likely due to increased reporting.
- There was no significant difference in afloat mishaps between SSN and SSBN.
- Personnel/Human error is the overwhelming cause of most submarine mishaps
- Unsafe acts and unsafe supervision are the leading personnel/human factors in class A mishaps.
- On-duty injuries other than afloat also increased in 2008/2009. This continued the pattern of better reporting.
- The Trident Refit Facility submitted 81% of all non-afloat on-duty mishaps. For this reason, Maintenance/Mechanical activity is the leading cause of on-duty injury and lost work day for SUBFOR. Slips/trips/falls and sports are also leading contributors.
- Sailors under 26 are more prone to on/off-duty mishaps than older sailors.
- There was no significant change in off-duty injuries for the 10 years of this study.
- Falls and sports are leading causes of off-duty injury.
- There was a significant reduction in off-duty fatalities. (Mostly drowning)
- With respect to data, many of the accident/activity type data fields, and objects involved have numerous "unknown/not reported" entries, or generic entries such as "object" or "sports". Large numbers of unknown and generic data submissions hinder the analysis.
- WESS does not provide a method to track operational equipment damage.

SUMMARY: This study answers the following questions about with respect to Naval Surface Force mishaps:

1. What are the Class A/B/C operational mishap rates for SUBFOR?
2. What are the most common Class A/B/C operational mishaps?
3. What are the most common Class A/B/C on and off duty injuries?
4. How much lost work time can be attributed to recreational activities?
5. What are the most common human factors in operational mishaps?
6. What are the most common material/procedural factors in operational mishaps?

With respect to afloat mishaps, there has been a statistically significant increase in afloat mishaps in 2009. No single type of activity is responsible for the increase. For this reason, it is possible that the increase is the result of better reporting.

The vast majority of on-duty mishap reports were submitted by the Trident Refit Facility. This is the reason that maintenance/Mechanical activity is the most common injury causing activity. Many of the injuries were caused by lifting heavy objects or caused by tools.

For off-duty mishaps, slips/trips/falls and sports were the leading lost work day activities. The combination of all sporting events was the overwhelming number one activity.

Recommendations

- Examine training program that pertains to injuries caused by lifting heavy objects and for proper usage of tools, particularly for the refit facilities.
- Examine the training provided to supervisors for ways to reduce the instances of supervisory error.
- Provide training and safety programs to address human error on the part of sailors and supervisors.
- Develop periodic swim training/qualification for all Navy personnel.
- Educate sailors on proper warm-up techniques and on the need to wear required safety equipment while participating in sports.

For the Naval Safety Center

- Provide a method to enter vessel type when injuries occur in a refit facility to refit facility personnel while in a submarines.
- Provide a method to report and track damage to equipment.
- Provide a specific definition in WESS and require the bls_obj_invlvd, bls_acdt_type, and pcn_c fields to be populated. The pcn_c field lists the activity in which the person was involved. Eliminate the "unknown" category and examine ways to reduce the number of activities from the drop down menus.